

# DIN EN ISO 18278-1:2023-06 (E)

## Resistance welding - Weldability - Part 1: General requirements for the evaluation of weldability for resistance spot, seam and projection welding of metallic materials (ISO 18278-1:2022)

---

<b>Contents</b>		<b>Page</b>
<b>European foreword</b> .....		<b>3</b>
<b>Foreword</b> .....		<b>4</b>
<b>1</b>	<b>Scope</b> .....	<b>5</b>
<b>2</b>	<b>Normative references</b> .....	<b>5</b>
<b>3</b>	<b>Terms and definitions</b> .....	<b>6</b>
<b>4</b>	<b>Weldability</b> .....	<b>8</b>
4.1	Weldability of a component.....	8
4.1.1	General.....	8
4.1.2	Metallurgical weldability.....	9
4.1.3	Operative weldability.....	9
4.1.4	Constructional weldability.....	9
4.2	Criteria for the evaluation of weldability.....	9
<b>5</b>	<b>Preparation of welding equipment</b> .....	<b>10</b>
5.1	Welding machine.....	10
5.2	Welding electrodes.....	10
5.2.1	General.....	10
5.2.2	Spot welding.....	10
5.2.3	Seam welding.....	10
5.2.4	Projection welding.....	10
5.3	Measurement of parameters.....	11
5.3.1	Welding current.....	11
5.3.2	Electrode force.....	11
<b>6</b>	<b>Test procedures</b> .....	<b>11</b>
6.1	General.....	11
6.2	Basic test procedures.....	11
6.2.1	Essential variables.....	11
6.2.2	Welding current range test.....	11
6.2.3	Electrode life test.....	12
6.2.4	Weldability lobe test.....	13
6.3	Evaluation of weld properties.....	14
6.3.1	General.....	14
6.3.2	Shop floor tests.....	14
6.3.3	Tensile shear testing.....	14
6.3.4	Mechanized peel testing.....	15
6.3.5	Cross-tension testing.....	15
6.3.6	Macro-sections and hardness test.....	15
6.3.7	Further weld properties.....	15
<b>7</b>	<b>Test report</b> .....	<b>15</b>
7.1	General.....	15
7.2	Welding current range test.....	15
7.3	Electrode life test.....	16
7.4	Weldability lobe test.....	16
<b>Annex A (informative) How to evaluate the mass and friction of the welding head</b> .....		<b>18</b>
<b>Bibliography</b> .....		<b>19</b>